

Virginia Broadband Availability Map

Internet Service Provider Service Territory Data Submission Guidelines



Erik C. Johnston
Director

Tamarah Holmes, Ph.D.
Director, Office of Broadband

Virginia Broadband Availability Map

Internet Service Provider Service Territory Data

Submission Guidelines

Section P of Item 114 of Chapter 552, 2021 Acts of Assembly, 2021 Special Session I, commonly known as the Budget Bill, directs the Department of Housing and Community Development(DHCD) to develop a statewidebroadband availability map indicating broadband coverage, including maximum broadband speeds available in service territories in the Commonwealth. As directed in the Budget Bill, all broadband serviceproviders shall be required to submit updated service territory data to the Department annually, containing the locations to which they provide broadband service.

Pursuant to budget bill language, the Department may publish only anonymized versions of the map, showing serviceable and unserviceable by broadband without reference to any specific provider. The map shall notinclude information regarding ownership or control over the network or networks providing service. Information submitted by a broadband provider in connection with this section shall be excluded from the requirements of the Virginia Freedom of Information Act (§ 2.2-3700 et seq.). Information submitted by a broadband provider pursuant to this section shall be used solely for the purposes stated under this section and shall not be released by the Department, or any other public records custodian, without the express written permission of the submitting broadband provider.

Data Submission Requirements

Pursuant to budget bill language, broadband providers shall be required to submit updated service territory data to the Department annually. Also, in no instance may the Department require broadband providers to submit any data, in either substantive content or form, beyond that which the provider is required to submit to the Federal Communications Commission (FCC) pursuant to the federal Broadband Deployment Accuracy and Technological Availability Act, 47 U.S.C. § 641 et. seq. Service territory data includes where the provider has actually built out their broadband network infrastructure and is able to provide that service through a standard broadband installation.¹

Broadband providers include terrestrial fixed, mobile or fixed wireless, or satellite² providing broadband internet access service and includes entities required to provide the federal government with informationon FCC Form 477 or as part of the federal Digital Opportunity Data Collection program pursuant to 47 U.S.C. § 214(e)(6) for any portion of the Commonwealth.

The data submitted must meet the requirements established in the federal Broadband DATA Act

¹ As referenced in Public Law 116-130, commonly known as the “Broadband Deployment Accuracy and Technological Availability Act” a standard broadband installation means the initiation by a provider of fixed broadband internet access service in an area where the provider has not previously offered that service, with no charges or delays attributable to the extension of the network of the provider; and includes the initiation of fixed broadband internet access service through routine installation thatcan be completed not later than 10 business days after the date on which the service request is submitted.

² Satellite-based broadband providers that have been designated as an eligible telecommunications carrier pursuant to 47 U.S.C. § 214(e)(6) for any portion of the Commonwealth shall be required to submit comparable data as other broadband providers

(Act, 47 U.S.C. § 641 et. seq.), as outlined in these guidelines, and include granular service territory data. DHCD strongly encourages submitted service territory data be based upon the Virginia Geographic Information Network (VGIN) unique ADDRESS_POINT_ID (or ADDPTKEY in ESRI ArcGIS) located in the [VGIN Site Address Point database](#). Service territory data submitted using unique ADDRESS_POINT IDs as identified in the VGIN Site Address Point database significantly reduces the risk of misrepresenting the service territories of broadband providers. For best practices around incorporating unique address IDs, contact the Office of Broadband and Virginia Tech Center for Geospatial Information Technology at the contact information provided below.

This data must be submitted in one, or both, of the following formats:

CSV Spreadsheet -

- This is the preferred data format for fixed providers
- Spreadsheet in .csv format
- Each serviceable location must be represented as an ADDRESS_ID in its own row (reference example submission file)
- Each row must also include:
 - Technology code as designated by [CSV and Shapefile Guidelines](#)
 - The maximum speed available at the location referenced for speeds greater than or equal to 25/3 Mbps (download/upload)
 - For speeds below 25/3 providers must report locations for speeds greater than or equal to 10/1 Mbps. (Digital input; yes - 10/1 or above but less than 25/3)
 - Whether the reported service is available to residential and/or business customers
 - Whether the network round-trip latency associated with each maximum speed combination reported for a particular geographic area is less than or equal to 100 ms, based on the 95th percentile of measurements
- Additional requirements for fixed wireless providers:
 - Fixed wireless service providers that submit coverage maps shall submit propagation maps and propagation model details based on receiver heights within a range of four to seven meters and description of the other parameters used in the propagation model, including predicted signal strength.
 - Additional information may be required if the reported coverage is petitioned in the future, provided that any such information is consistent with the information and form and required by the FCC rules.

GIS Point shapefiles-

- Acceptable alternate submission method
- .shp, .shx, .dbf, and .prj are mandatory for shapefile upload or a file geodatabase (.gdb).
- Shapefiles must provide point data representing serviceable locations, with each point correlating to each serviceable location in a single layer
- Attribute data must include
 - VGIN's ADDRESS_POINT_ID for serviceable locations (strongly encouraged)
 - Technology code as designated by [CSV and Shapefile Guidelines](#)
 - The maximum speed available at the location referenced for speeds greater than

- or equal to 25/3 Mbps (download/upload)
 - For speeds below 25/3 providers must report locations for speeds greater than or equal to 10/1 Mbps. (Digital input; yes - 10/1 or above but less than 25/3)
 - Whether the reported service is available to residential and/or business customers
 - Whether the network round-trip latency associated with each maximum speed combination reported for a particular geographic area is less than or equal to 100 ms, based on the 95th percentile of measurements
- Additional requirements for fixed wireless providers:
 - Fixed wireless service providers that submit coverage maps shall submit propagation maps and propagation model details based on receiver heights within a range of four to seven meters and description of the other parameters used in the propagation model, including predicted signal strength.
 - Additional information may be required if the reported coverage is petitioned in the future, provided that any such information is consistent with the information and form and required by the FCC rules.

GIS Polygon shapefiles-

- Acceptable alternate submission method
- .shp, .shx, .dbf, and .prj are mandatory for shapefile upload or a file geodatabase(.gdb).
- Shapefiles must provide polygons depicting the areas where providers actually have broadband-capable networks and make fixed broadband service available to end-user locations.
- Attribute data must include:
 - Technology code as designated by [CSV and Shapefile Guidelines](#)
 - The maximum speed available at the location referenced for speeds greater than or equal to 25/3 Mbps (download/upload)
 - For speeds below 25/3 providers must report locations for speeds greater than or equal to 10/1 Mbps. (Digital input; yes - 10/1 or above but less than 25/3)
 - Whether the reported service is available to residential and/or business customers
 - A broadband coverage polygon must be submitted for each combination of maximum download speed, upload speed and technology
 - Whether the network round-trip latency associated with each maximum speed combination reported for a particular geographic area is less than or equal to 100 ms, based on the 95th percentile of measurements
- Additional requirements for fixed wireless providers:
 - Fixed wireless service providers that submit coverage maps shall submit propagation maps and propagation model details based on receiver heights within a range of four to seven meters and description of the other parameters used in the propagation model, including predicted signal strength.
 - Additional information may be required if the reported coverage is petitioned in the future, provided that any such information is consistent with the information and form and required by the FCC rules.

Requirements for mobile providers-

- This is the required data format for mobile providers
- .shp, .shx, .dbf, and .prj are mandatory for shapefile upload or a file geodatabase (.gdb).
- Mobile providers must submit coverage maps based on the following specified parameters:
 - For 4G LTE services - a minimum expected user download speed of 5 Mbps and user upload speed of 1 Mbps at the cell edge; for 5G-NR services - a minimum expected user download speed of 7 Mbps and user upload speed of 1 Mbps, and a minimum expected user download speed of 35 Mbps and user upload speed of 3 Mbps at the cell edge.
 - (ii) For each of the mobile broadband technologies, 4G LTE and 5G-NR, and for mobile voice services, the provider's coverage maps must reflect coverage areas where users should expect to receive the minimum required download and upload speeds with cell edge coverage probability of not less than 90% and a cell loading of not less than 50%.
 - (iii) For each of the mobile broadband technologies, 4G LTE, and 5G-NR, and for mobile voice services, the provider's coverage maps must account for terrain and clutter and use terrain and clutter data with a resolution of 100 meters or better. Each coverage map must have a resolution of 100 meters or better.
 - (iv) For each of the mobile broadband technologies, 4G LTE, and 5G-NR, and for mobile voice services, the provider's coverage maps must be submitted in vector format.
 - Propagation maps submitted by providers must depict outdoor coverage, to include both on-street or pedestrian stationary usage, and in-vehicle mobile usage, as two separate maps.
 - No coverage maps are required for 3G service or below
 - Additional information may be required if the reported coverage is petitioned in the future, provided that any such information is consistent with the information and form required by the FCC rules

This data must be submitted to the Broadband Data Submission Portal by December 15, 2021. Failure to submit data by this deadline may result in supplemental action by the Commonwealth of Virginia.

Assistance with data submission is available from the DHCD Office of Broadband and CGIT at the contact emails below. After submission, providers will be notified of a successful submission once the data has been verified to be functional. Once the coverage data is published on the state broadband map there will be an opportunity for the public, government entities, and third parties to petition the accuracy of the data.

Contact Information:

DHCD Office of Broadband: broadband@dhcd.virginia.gov

VT Center for Geospatial Information Technology: cgitsupport@vt.edu